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FIG. 1A

COMPUTER

PORTABLE PERSONAL DEVICE
(FOR EXAMPLE, MP3 PLAYER)

FIG. 1B

COMPUTER

DOCKING
STATION
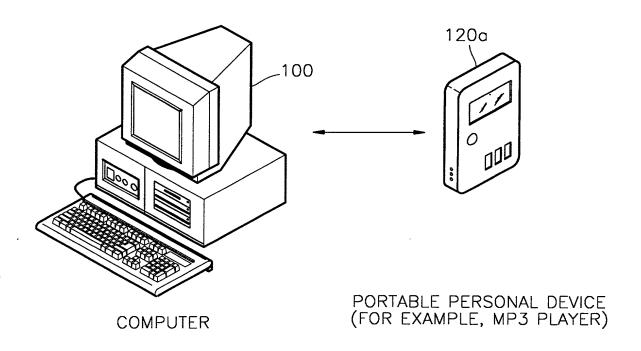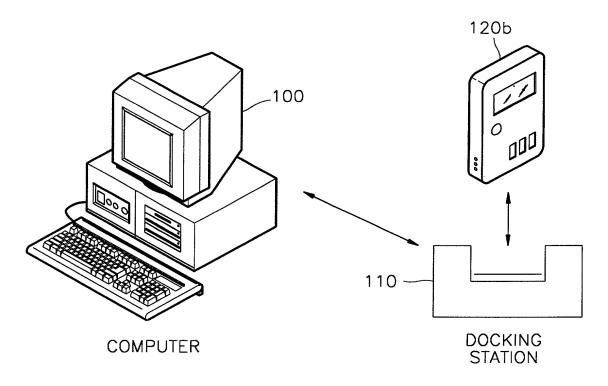
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FIG. 2A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PORTABLE
PERSONAL DEVICE
(PLAYER)

(a) INVOKE DOCKING
STATION

200

(b) STATE INFORMATION

210

FIG. 2B

(a)

:	0x69	.

201 202   203

200P

(b)

:	STATE	.

201   204   203

210P

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FIG. 3A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

(a) INVOKE PLAYER

300

(b) STATE INFORMATION

310

FIG. 3B

300P

(a) | # | 0x00 | 0x03 | : | 0x49 | . |

301   302   303 304   305

310P

(b) | # | 0x00 | 0x03 | : | STATE | . |

301   302   303   306 305

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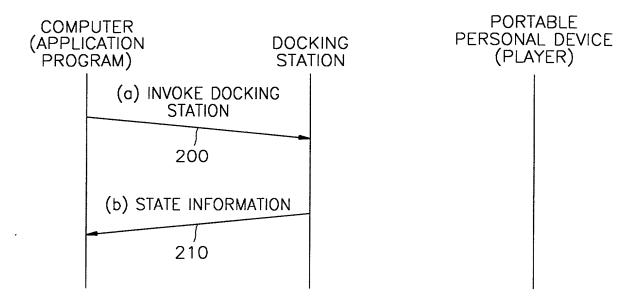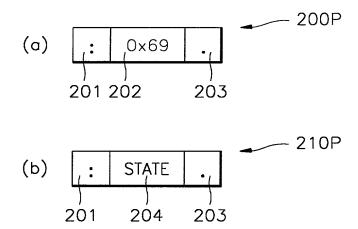Darryl Mexic   202-293-7060
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FIG. 4A

FIG. 4B

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FIG. 5A

COMPUTER
(APPLICATION PROGRAM)   DOCKING STATION   PLAYER

(a) REQUEST DOCKING
STATION VERSION   500

(b) DOCKING STATION
VERSION INFORMATION   510

FIG. 5B

(a)   500P

| .. | 0x59 | . |

501

(b)   510P

| .. | VERSION (11 BYTES) | DATE (8 BYTES) | MODEL NAME (13 BYTES) | . |

502   503   504

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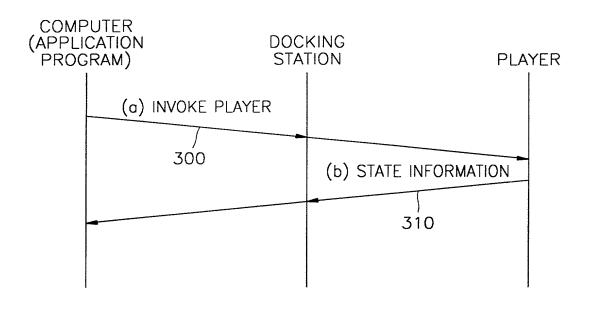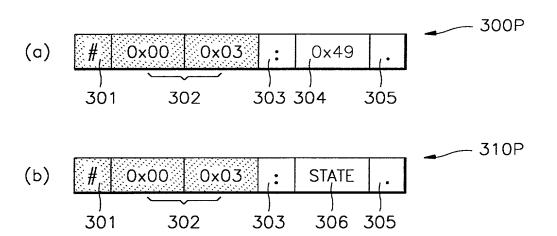Darryl Mexic   202-293-7060
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FIG. 6A

COMPUTER
(APPLICATION PROGRAM)   DOCKING STATION   PLAYER

(a) START SIGNAL   600

(b) START SIGNAL ACK   610

FIG. 6B

(a)
| # | 0x00 | 0x04 | : | 0x4c | NEXT COMMAND LENGTH (EXCLUDING PREAMBLE) | . |

601 602

600P

(b)
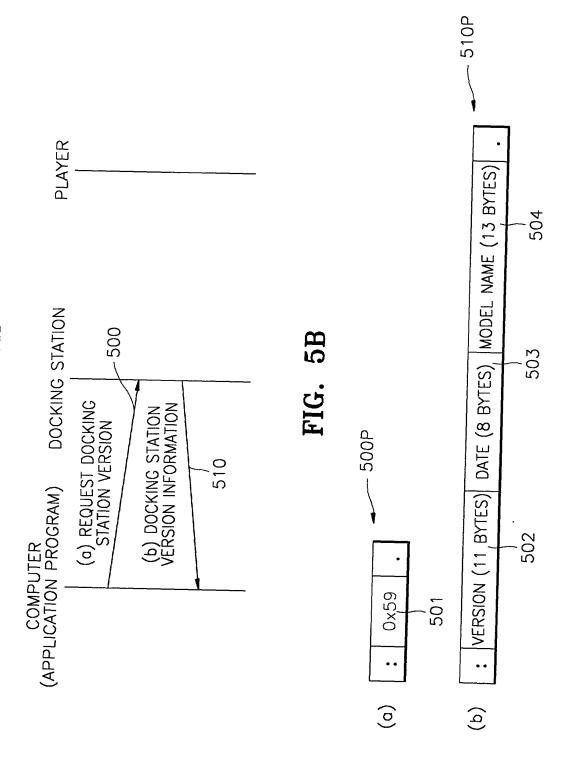| # | 0x00 | 0x04 | : | STATE | NEXT COMMAND LENGTH (EXCLUDING PREAMBLE) | . |

603 602

610P

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FIG. 7A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

(a) START SIGNAL

700

(b) START SIGNAL ACK

710

720

(c) FORMAT PREPARATION
SIGNAL

(d) FORMAT PREPARATION
ACK

740

(e) EXECUTION

(f) EXECUTION RESULT

(PARALLEL COMMUNICATION)

FIG. 7B

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

(a) FORMAT PREPARATION
SIGNAL

720

730

(d) FORMAT PREPARATION
ACK

740

(e) EXECUTION

(f) EXCUTION RESULT

750

(SERIAL COMMUNICATION)

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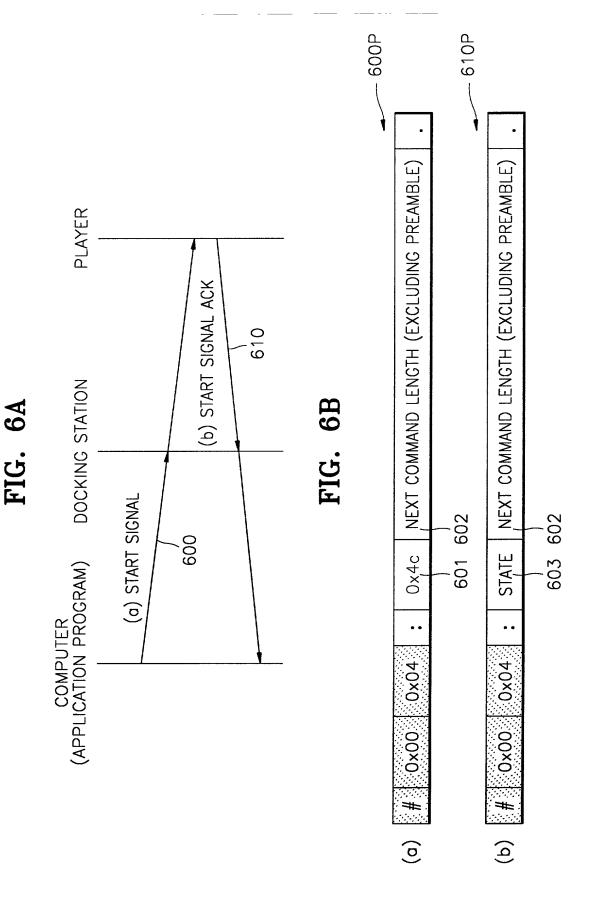January 12, 2001
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FIG. 7C

(a) | # | 0x00 | 0x04 | : | 0x4c | 0x04 | . | ← 700P

702

(b) | # | 0x00 | 0x04 | : | STATE | 0x04 | . | ← 710P

702

(c) | # | 0x00 | 0x04 | : | 0x4d/0x53 | 0x46 | . | ← 720P

703   704

(d) | # | 0x00 | 0x04 | : | 0x4d/0x53 | 0x46 | . | ← 730P

703   704

(e) | # | 0x00 | 0x03 | : | 0x46 | . | ← 740P

705

(f) | # | 0x00 | 0x03 | : | STATE | . | ← 750P

706

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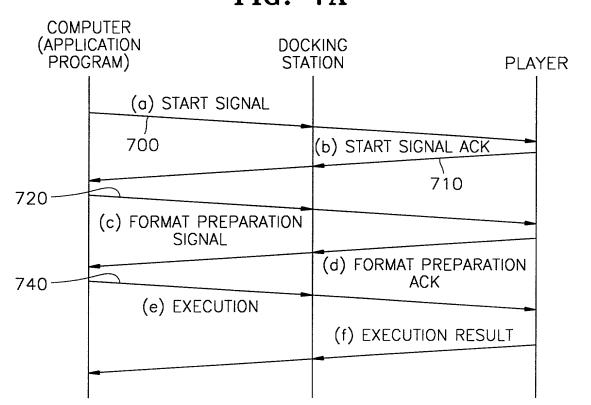Darryl Mexic   202-293-7060
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FIG. 8A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

800 —— (a) START SIGNAL

                                                       —— 810

        (b) START SIGNAL ACK

820 ——

        (c) PREPARATION SIGNAL
        (REFRESH ROOT DIRECTORY)   —— 830

                (d) PREPARATION ACK

840 ——

        (e) EXECUTION
                        (f) SYNC REQUEST   —— 850

                                                       —— 860

                        (g) SYNC ACK

                                                       —— 870

                        (h) ROOT DIRECTORY
                            INFORMATION

                (PARALLEL COMMUNICATION)

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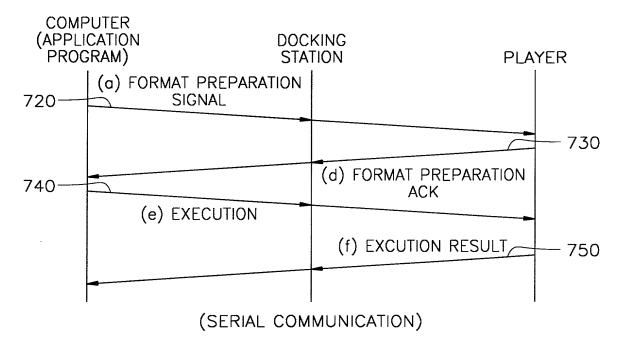10 of 58

FIG. 8B

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

820

(c) PREPARATION SIGNAL
(REFRESH ROOT DIRECTORY)

830

(d) PREPARATION ACK

840

(e) EXECUTION

870

(h) ROOT DIRECTORY
INFORMATION

(SERIAL COMMUNICATION)

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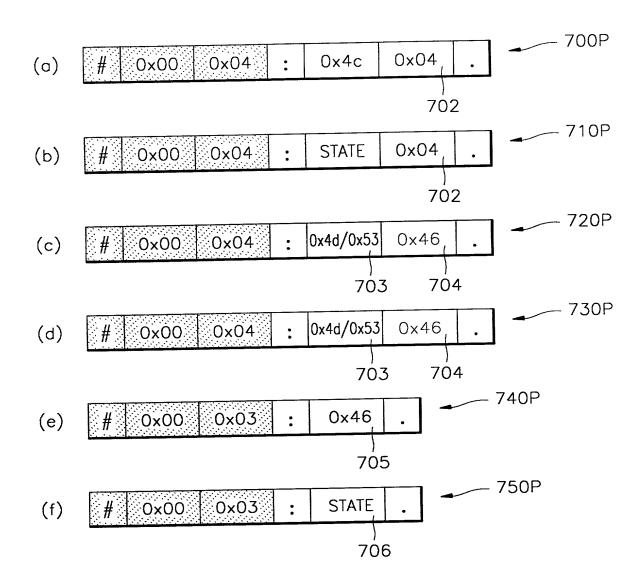January 12, 2001
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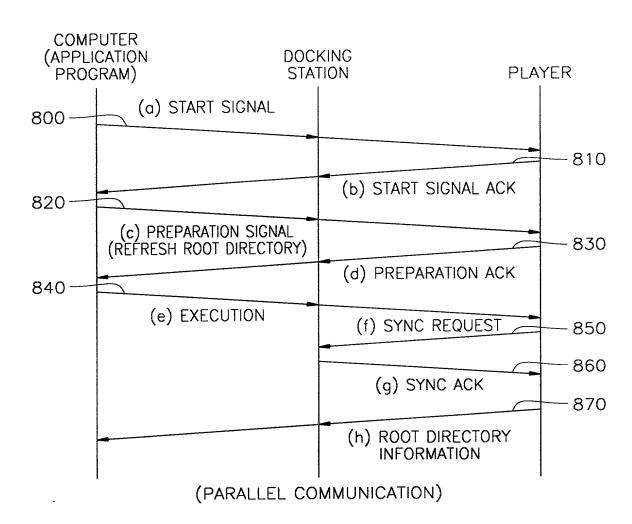
FIG. 8C
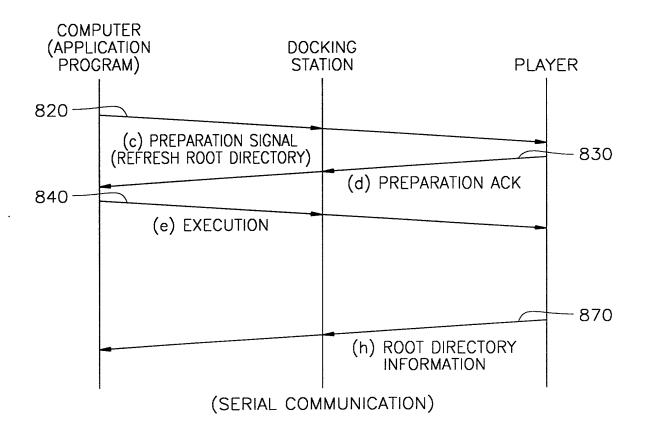
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FIG. 8C

(f) 850P

:	'U'	.

(g) 860P

:	STATE	.

(h) 870P

TOTAL MEMORY SIZE (4 BYTES)	USABLE MEMORY SIZE (4 BYTES)	00-07	FILE NAME (8 BYTES)	...
		08-10	EXTENSION (3 BYTES)	
		11	FILE ATTRIBUTES	
		12-21	RESERVED	
		22-23	TIME(2 BYTES)	
		24-25	DATE (2 BYTES)	
		26-27	RESERVED	
		28-31	FILE SIZE (4 BYTES)	x (TOTAL FILE NUMBER)

807   808   809

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FIG. 9A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

900 — (a) START SIGNAL

910

(b) START SIGNAL ACK

920 —

(c) PREPARATION SIGNAL
(REFRESH SUB-DIRECTORY)

930

(d) PREPARATION ACK

940 —

(e) EXECUTION

(f) SYNC REQUEST   950

960

(g) SYNC ACK

970

(h) SUB-DIRECTORY
INFORMATION

(PARALLEL COMMUNICATION)

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FIG. 9B

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FIG. 9C

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FIG. 9C

(f)   950P

::	'F'	.

(g)   960P

::	STATE	.

(h)   970P

909

00-07	FILE NAME (8 BYTES)
08-10	EXTENSION (3 BYTES)
11	FILE ATTRIBUTES
12-21	RESERVED
22-23	TIME(2 BYTES)
24-25	DATE (2 BYTES)
26-27	RESERVED
28-31	FILE SIZE (4 BYTES)

x (TOTAL FILE NUMBER)

TOTAL MEMORY SIZE (4 BYTES)   907

USABLE MEMORY SIZE (4 BYTES)   908

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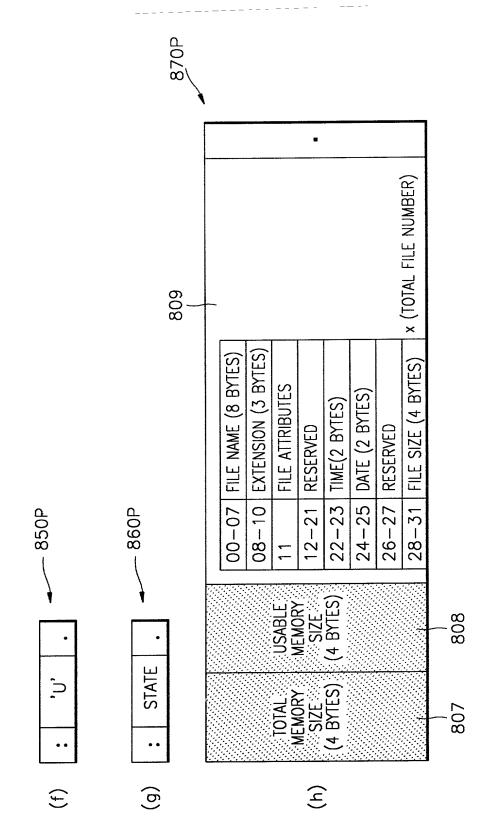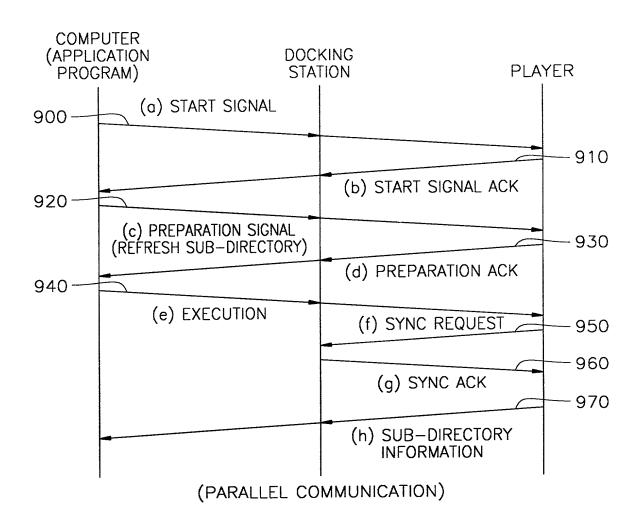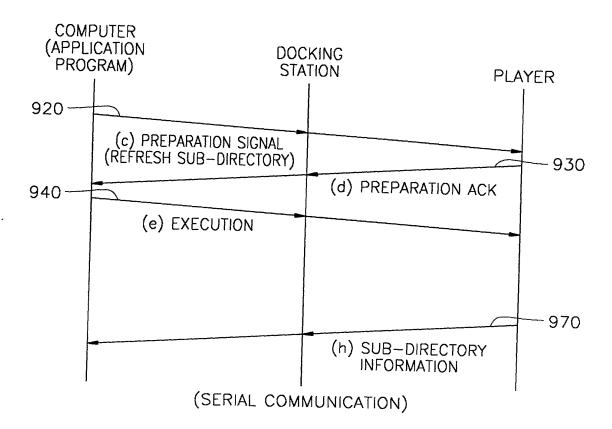Darryl Mexic   202-293-7060
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FIG. 10A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
STATION   PLAYER

1000 — (a) START SIGNAL

1010

1020 — (b) START SIGNAL ACK

(c) PREPARATION SIGNAL
(DOWNLOAD)

1030

(d) PREPARATION ACK

1040 —

(e) SYNC REQUEST

1050

1060   (f) SYNC ACK

(g) DATA BLOCK

REPEAT

1070

(h) ACK

(i) FINAL DATA BLOCK

(PARALLEL COMMUNICATION)
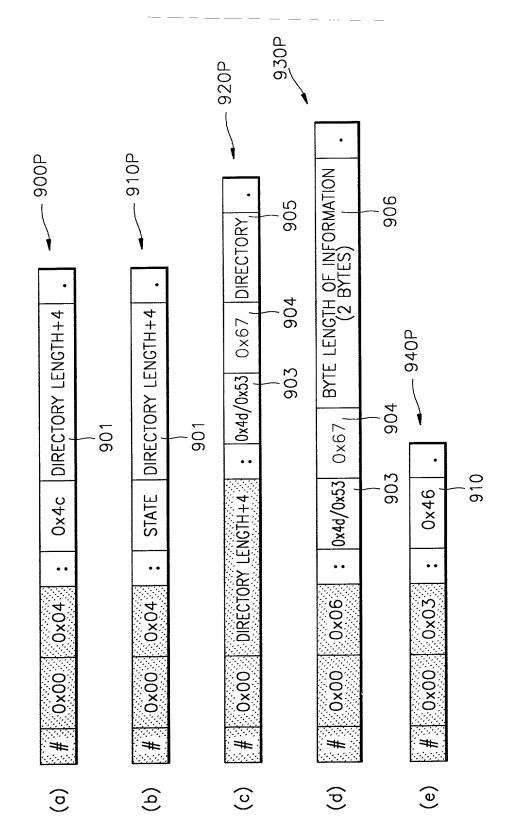
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FIG. 10B

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

1020

(c) PREPARATION SIGNAL
(DOWNLOAD)

1030

(d) PREPARATION ACK

1060

(g) DATA BLOCK

REPEAT

(i) FINAL DATA BLOCK

(SERIAL COMMUNICATION)
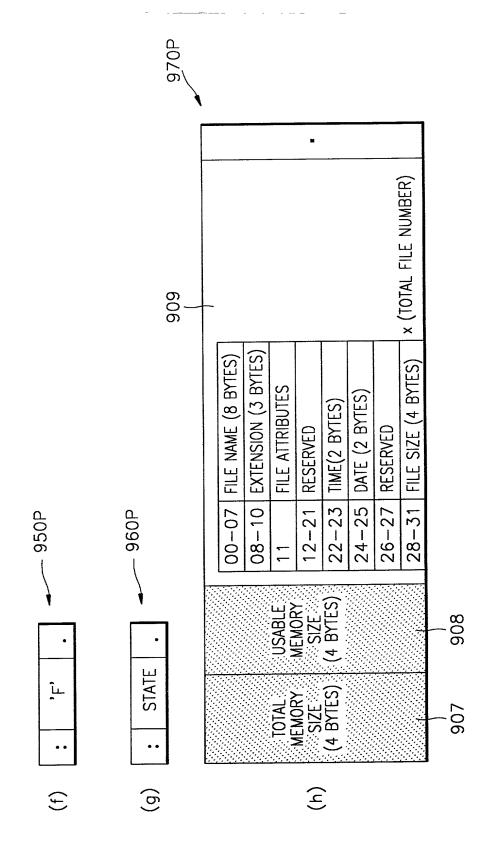
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January 12, 2001
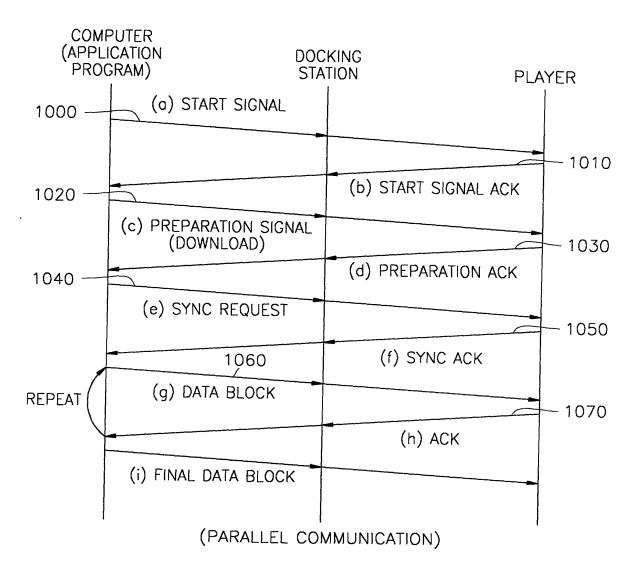Darryl Mexic   202-293-7060
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FIG. 10C

(a) | # | 0x00 | 0x04 | : | 0x4c | FILE NAME LENGTH+12 | · | 1000P
1001

(b) | # | 0x00 | 0x04 | : | STATE | FILE NAME LENGTH+12 | · | 1010P
1001

(c) | # | 0x00 | FILE NAME LENGTH+12 | : | 0x4d/0x53 | 0X57 | FILE NAME | DATE (2 BYTES) | TIME (2 BYTES) | FILE SIZE (4 BYTES) | · | 1020P
1003   1004   1005

(d) | # | 0x00 | FILE NAME LENGTH+14 | : | 0x4d/0x53 | 0X57 | FILE NAME | DATE (2 BYTES) | TIME (2 BYTES) | FILE SIZE (4 BYTES) | BLOCK SIZE | · | 1030P
1003   1004   1005   1006

(e) | : | 0x44 | · | 1040P

(f) | : | STATE | · | 1050P

(g) | (512*2^BLOCK SIZE) BYTES | 1060P

(h) | : | 1070P

(i) | REMAINING DATA BLOCK | · | 1080P
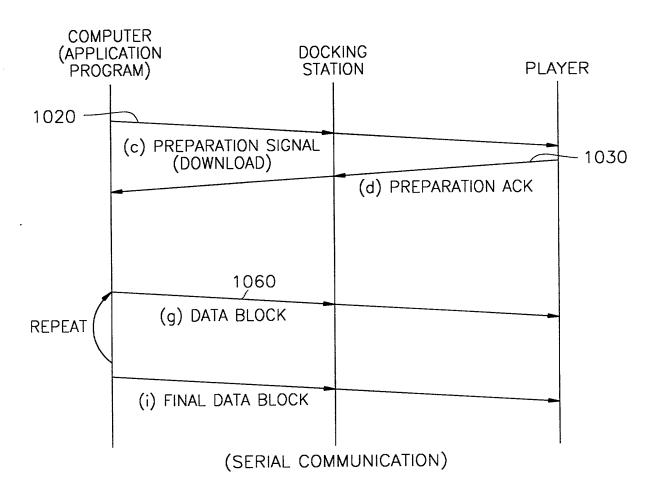
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FIG. 11A

PLAYER

DOCKING
STATION

COMPUTER
(APPLICATION PROGRAM)

1110

(b) EXTENDED DOWNLOAD
PREPARATION ACK

(a) EXTENDED DOWNLOAD
PREPARATION

1120

(c) DATA

1100

REPEAT

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FIG. 11B

(a) 1100P

| # | 0x00 | FILE NAME LENGTH+ (ADDITIONAL SPACE)+0x12 | : | 0x4d/0x53 | 0x90 | 0x17 | FILE INFORMATION | . |

1101 1102 1103 1104

(b) 1110P

| # | 0x00 | 0x09 | : | STATE (1 BYTE) | : | SIZE (4 BYTES) | BLOCK SIZE | . |

1105 1106 1107

(c1) 1120P1

STREAM DATA (512*2$^{BOLCK\ SIZE}$ BYTES)

(c2) 1120P2

STREAM DATA (REMAINING BLOCK)

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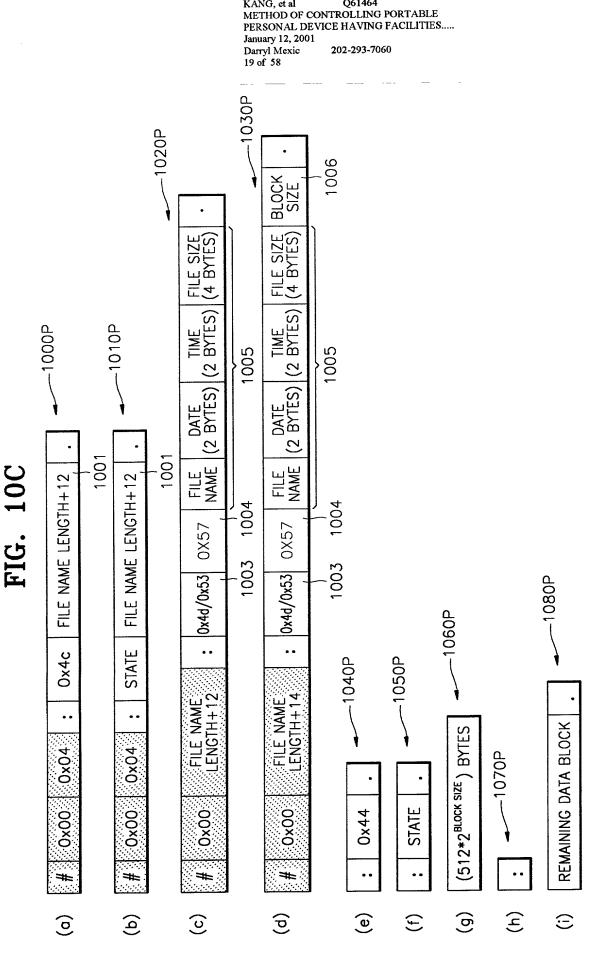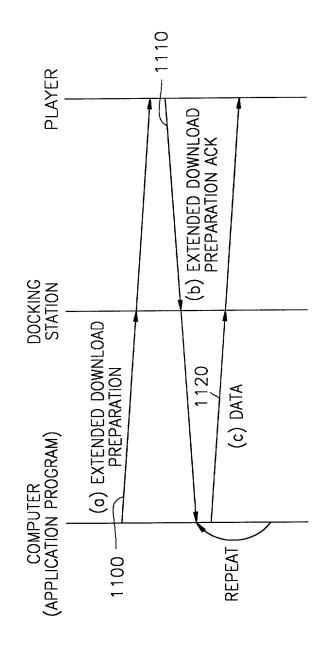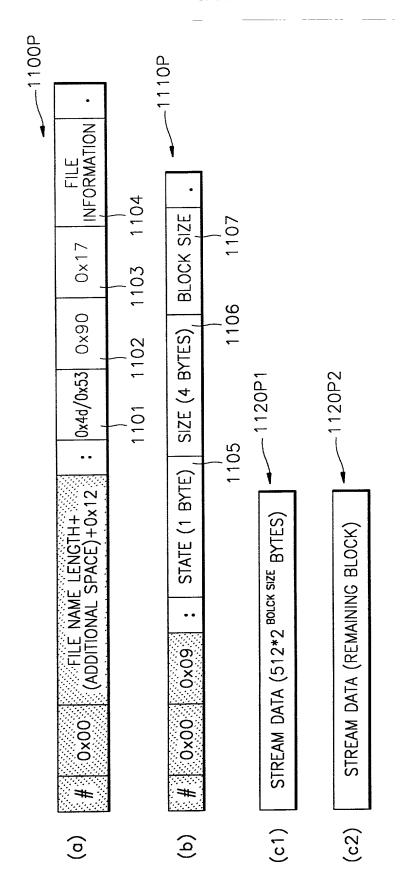22 of 58

FIG. 12A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

1200 ——— (a) START SIGNAL

                                                        ——— 1210

1220 ———   (b) START SIGNAL ACK

        (c) PREPARATION SIGNAL   ——— 1230
            (UPLOAD)
1240 ———   (d) PREPARATION ACK

        (e) EXECUTION   (f) SYNC REQUEST   ——— 1242

                    (g) SYNC ACK   ——— 1244

                    1250
1260 ———   (h) DATA BLOCK   } REPEAT

        (i) ACK   ——— 1270

1280 ———   (j) FINAL DATA BLOCK

        (k) FINAL ACK

(PARALLEL COMMUNICATION)

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FIG. 12B

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

1220

(c) PREPARATION SIGNAL
(UPLOAD)

1230

(d) PREPARATION ACK

1250

(h) DATA BLOCK

REPEAT

1270

(j) FINAL DATA BLOCK

(SERIAL COMMUNICATION)

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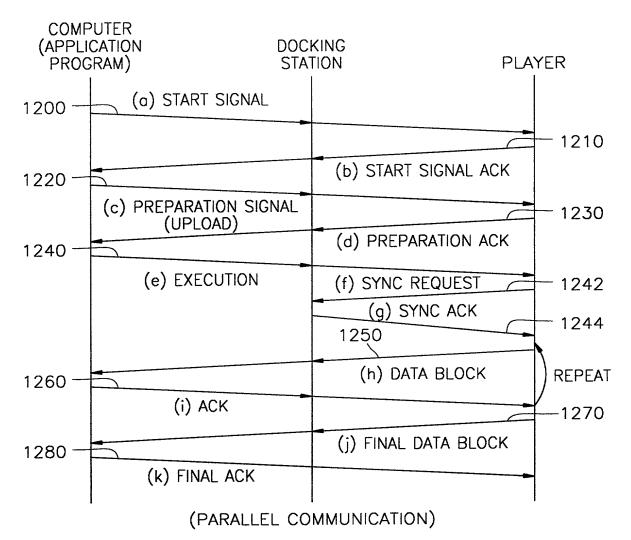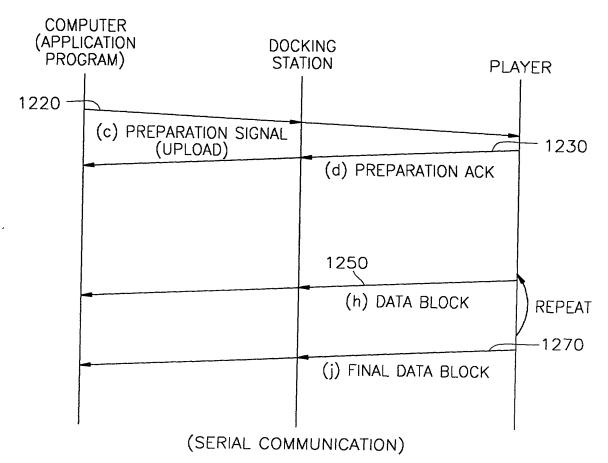Darryl Mexic   202-293-7060
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FIG. 12C

(a) | # | 0x00 | 0x04 | : | 0x4c | FILE NAME LENGTH+4 | · | → 1200P

(b) | # | 0x00 | 0x04 | : | STATE | FILE NAME LENGTH+4 | · | → 1210P

(c) | # | 0x00 | FILE NAME LENGTH+4 | : | 0x4d/0x53 | 0X52 | FILE NAME | · | → 1220P
        1203 1204 1205

(d) | # | 0x00 | FILE NAME LENGTH+10 | : | 0x4d/0x53 | 0X52 | FILE NAME | FILE SIZE (4 BYTES) | BLOCK SIZE | · | → 1230P
        1203 1204 1205 1206 1207

(e) | # | 0x00 | 0x03 | : | 0x46 | · | → 1240P

(f) | : | 'D' | · | → 1242P

(g) | : | STATE | · | → 1244P

(h) | (512*2$^{BLOCK\ SIZE}$) BYTES | · | → 1250P

(i) | : | → 1260P

(j) | (512*2$^{BLOCK\ SIZE}$) BYTES | · | → 1270P

(k) | · | → 1280P

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FIG. 13A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

1300 — (a) START SIGNAL

1310

1320 — (b) START SIGNAL ACK

(c) PREPARATION SIGNAL
(DELETE)

1330

1440 — (d) PREPARATION ACK

(e) EXECUTION

1350

(f) RESULT

(PARALLEL COMMUNICATION)

FIG. 13B

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

1320 — (c) PREPARATION SIGNAL
(DELETE)

1330

1340 — (d) PREPARATION ACK

(e) EXECUTION

1350

(f) RESULT

(SERIAL COMMUNICATION)

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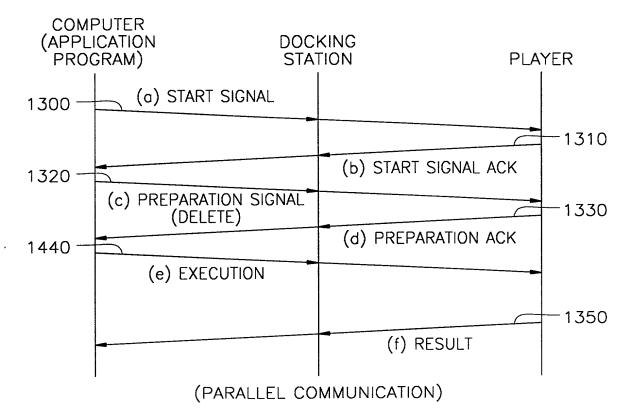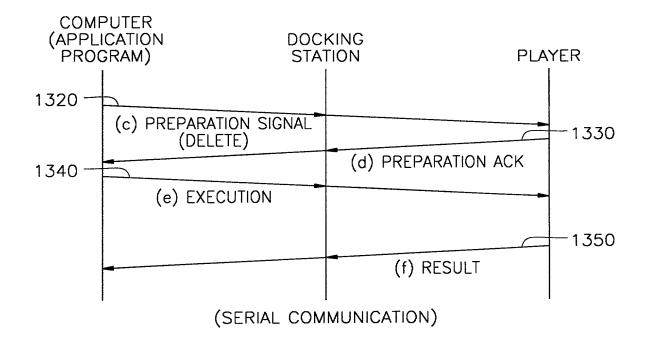Darryl Mexic   202-293-7060
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FIG. 13C

(a) 1300P

#	0x00	0x04	:	0x4c	FILE NAME LENGTH+4	.

(b) 1310P

#	0x00	0x04	:	STATE	FILE NAME LENGTH+4	.

(c) 1320P

#	0x00	FILE NAME LENGTH+4	:	0x4d/0x53	0x45	FILE NAME	.

1303   1304   1305

(d) 1330P

#	0x00	FILE NAME LENGTH+4	:	0x4d/0x53	0x45	FILE NAME	.

1303   1304   1305

(e) 1340P

#	0x00	0x03	:	0x46	.

(f) 1350P

#	0x00	0x03	:	STATE	.

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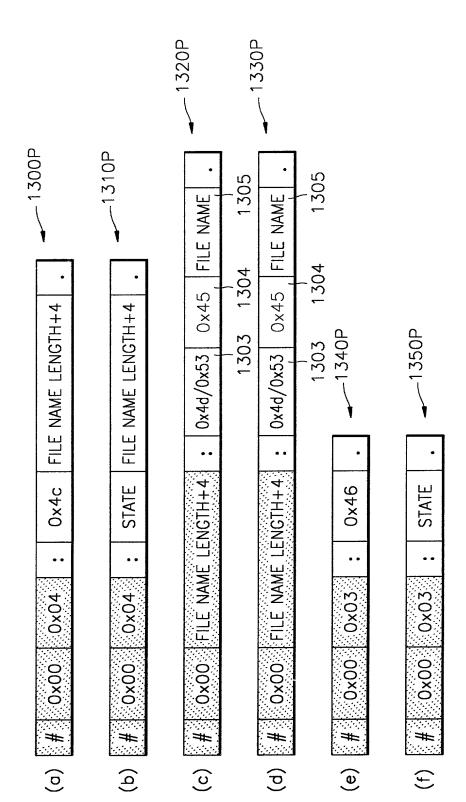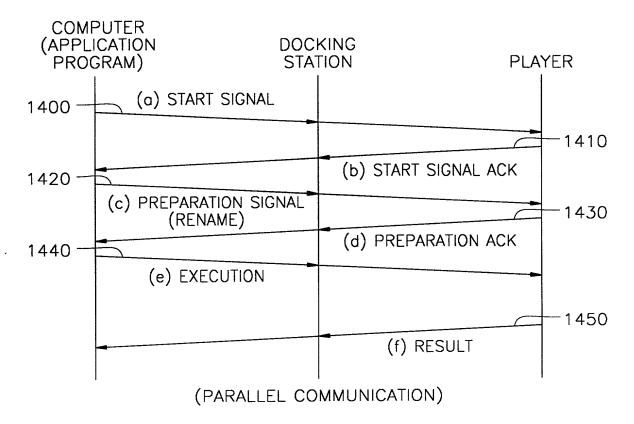Darryl Mexic   202-293-7060
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FIG. 14A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

1400 ——   (a) START SIGNAL

                                                        —— 1410

                                (b) START SIGNAL ACK
1420 ——

        (c) PREPARATION SIGNAL   —— 1430
            (RENAME)
                                (d) PREPARATION ACK
1440 ——

        (e) EXECUTION

                                                        —— 1450

                                (f) RESULT

(PARALLEL COMMUNICATION)

FIG. 14B

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

1420 ——

        (c) PREPARATION SIGNAL   —— 1430
            (RENAME)
                                (d) PREPARATION ACK
1440 ——

        (e) EXECUTION

                                                        —— 1450

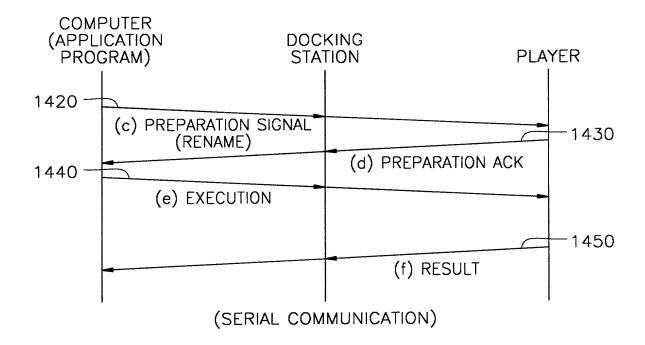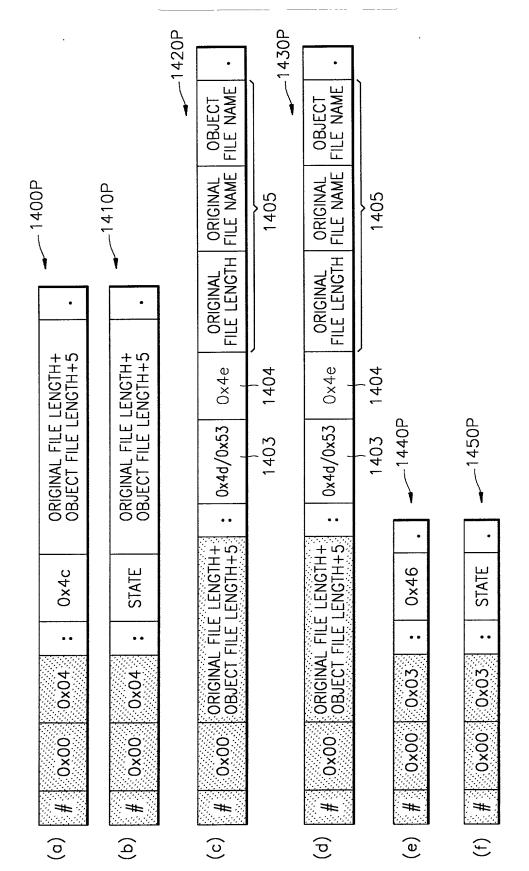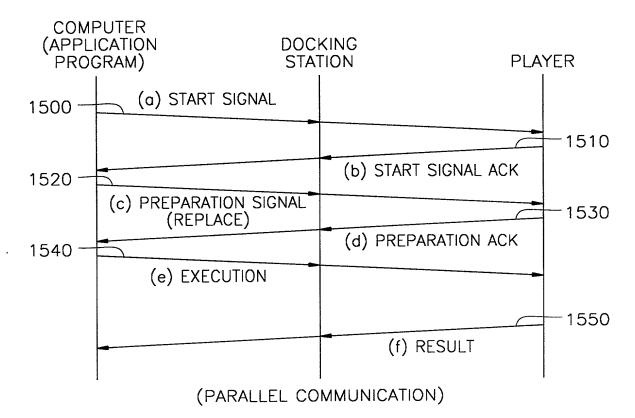   (f) RESULT

(SERIAL COMMUNICATION)

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FIG. 14C

(a) 1400P

#	0x00	0x04	:	0x4c	ORIGINAL FILE LENGTH+ OBJECT FILE LENGTH+5	·

(b) 1410P

#	0x00	0x04	:	STATE	ORIGINAL FILE LENGTH+ OBJECT FILE LENGTH+5	·

(c) 1420P

#	0x00	ORIGINAL FILE LENGTH+ OBJECT FILE LENGTH+5	:	0x4d/0x53	0x4e	ORIGINAL FILE LENGTH	ORIGINAL FILE NAME	OBJECT FILE NAME	·

1403   1404   1405

(d) 1430P

#	0x00	ORIGINAL FILE LENGTH+ OBJECT FILE LENGTH+5	:	0x4d/0x53	0x4e	ORIGINAL FILE LENGTH	ORIGINAL FILE NAME	OBJECT FILE NAME	·

1403   1404   1405

(e) 1440P

#	0x00	0x03	:	0x46	·

(f) 1450P

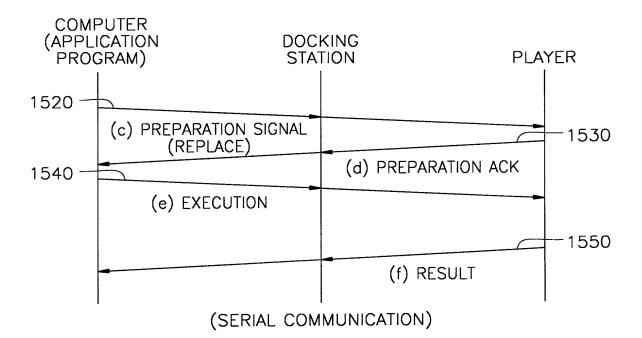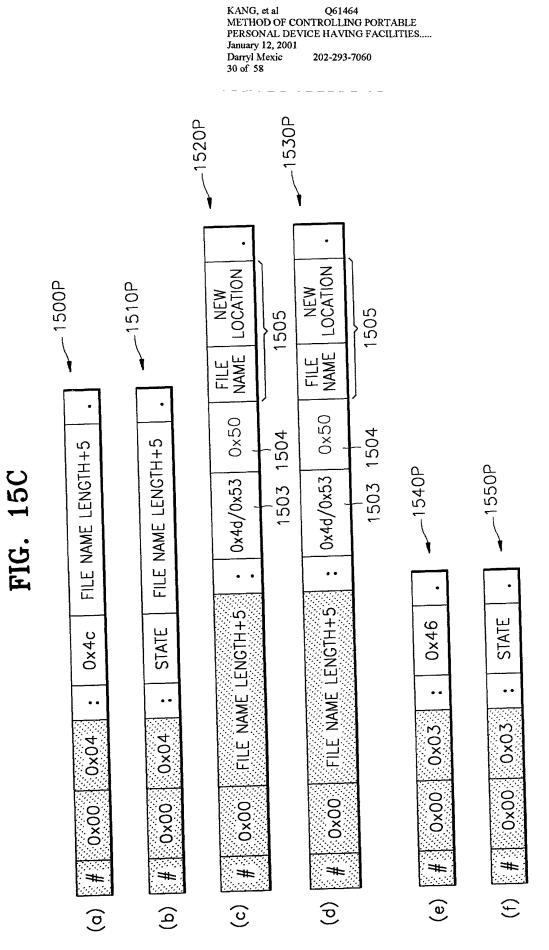| #	0x00	0x03	:	STATE	·

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FIG. 15A

COMPUTER
(APPLICATION
PROGRAM)
DOCKING
STATION
PLAYER

1500 — (a) START SIGNAL

1510

(b) START SIGNAL ACK

1520

(c) PREPARATION SIGNAL
(REPLACE)

1530

(d) PREPARATION ACK

1540

(e) EXECUTION

1550

(f) RESULT

(PARALLEL COMMUNICATION)

FIG. 15B

COMPUTER
(APPLICATION
PROGRAM)
DOCKING
STATION
PLAYER

1520

(c) PREPARATION SIGNAL
(REPLACE)

1530

(d) PREPARATION ACK

1540

(e) EXECUTION

1550

(f) RESULT

(SERIAL COMMUNICATION)

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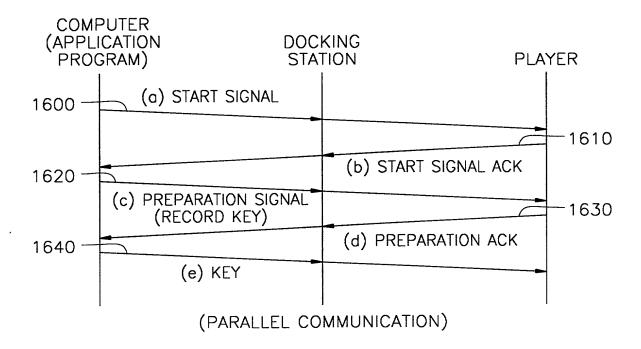Darryl Mexic   202-293-7060
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FIG. 15C

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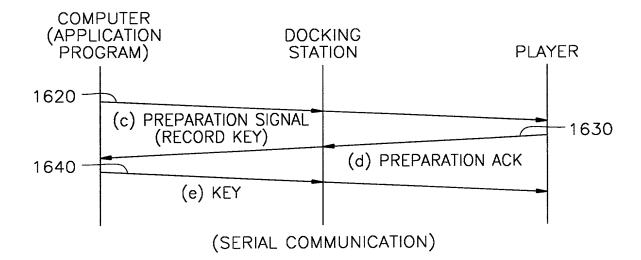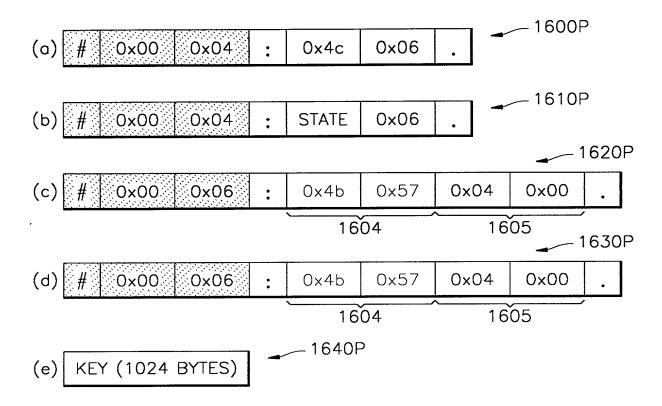Darryl Mexic   202-293-7060
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FIG. 16A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

1600 — (a) START SIGNAL

1610

(b) START SIGNAL ACK

1620 —

(c) PREPARATION SIGNAL
(RECORD KEY)

1630

(d) PREPARATION ACK

1640 —

(e) KEY

(PARALLEL COMMUNICATION)

FIG. 16B

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

1620 —

(c) PREPARATION SIGNAL
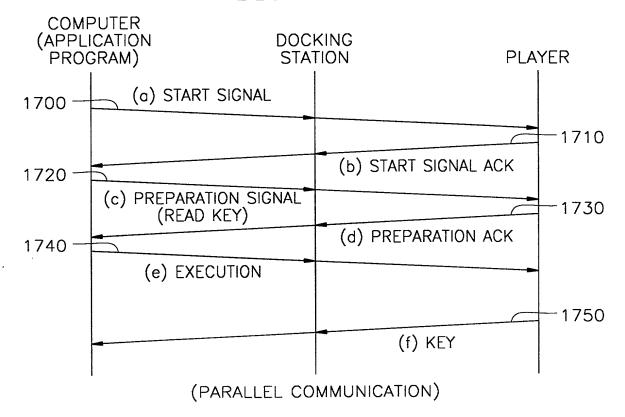(RECORD KEY)

1630

(d) PREPARATION ACK

1640 —

(e) KEY

(SERIAL COMMUNICATION)

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FIG. 16C

(a) | # | 0x00 | 0x04 | : | 0x4c | 0x06 | . | ← 1600P

(b) | # | 0x00 | 0x04 | : | STATE | 0x06 | . | ← 1610P

(c) | # | 0x00 | 0x06 | : | 0x4b | 0x57 | 0x04 | 0x00 | . | ← 1620P

1604   1605

(d) | # | 0x00 | 0x06 | : | 0x4b | 0x57 | 0x04 | 0x00 | . | ← 1630P

1604   1605

(e) | KEY (1024 BYTES) | ← 1640P
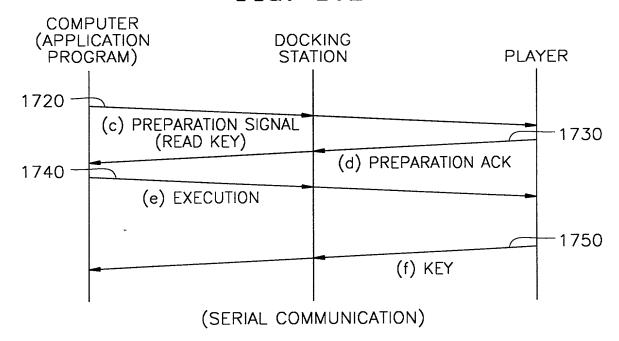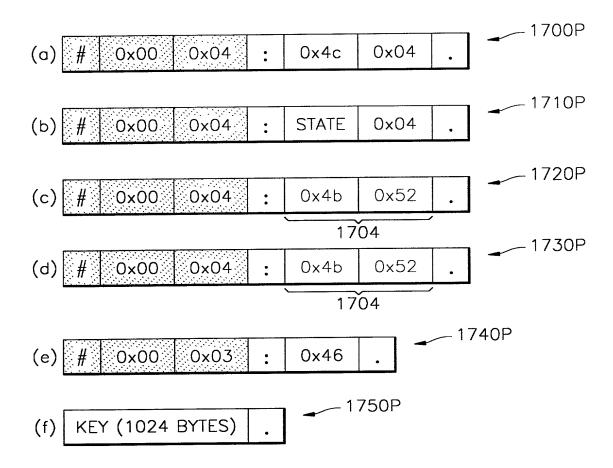
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FIG. 17A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

1700 — (a) START SIGNAL

— 1710

1720 — (b) START SIGNAL ACK

(c) PREPARATION SIGNAL
(READ KEY)

— 1730

(d) PREPARATION ACK

1740 —

(e) EXECUTION

— 1750

(f) KEY

(PARALLEL COMMUNICATION)

FIG. 17B

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

1720 —

(c) PREPARATION SIGNAL
(READ KEY)

— 1730

(d) PREPARATION ACK

1740 —

(e) EXECUTION

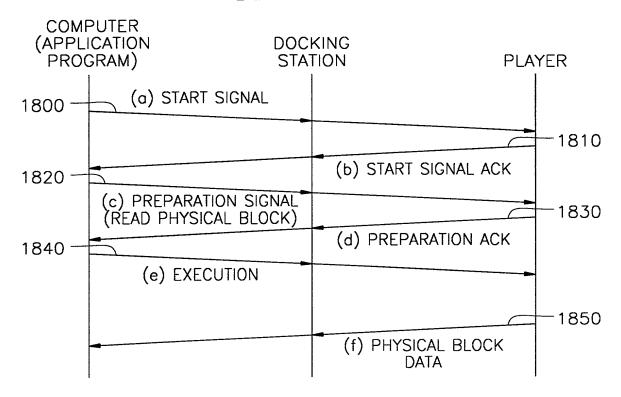— 1750

(f) KEY

(SERIAL COMMUNICATION)

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FIG. 17C

(a) | # | 0x00 | 0x04 | : | 0x4c | 0x04 | . | ← 1700P

(b) | # | 0x00 | 0x04 | : | STATE | 0x04 | . | ← 1710P

(c) | # | 0x00 | 0x04 | : | 0x4b | 0x52 | . | ← 1720P
                                  └──── 1704 ────┘

(d) | # | 0x00 | 0x04 | : | 0x4b | 0x52 | . | ← 1730P
                                  └──── 1704 ────┘

(e) | # | 0x00 | 0x03 | : | 0x46 | . | ← 1740P

(f) | KEY (1024 BYTES) | . | ← 1750P

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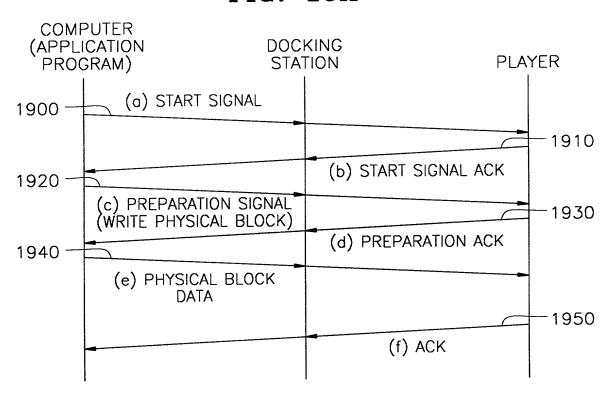35 of 58

FIG. 18A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

1800 ———| (a) START SIGNAL

                                                       |— 1810

1820 ———| (b) START SIGNAL ACK

        (c) PREPARATION SIGNAL
        (READ PHYSICAL BLOCK) |— 1830

1840 ———| (d) PREPARATION ACK

        (e) EXECUTION

                                                       |— 1850

                            (f) PHYSICAL BLOCK
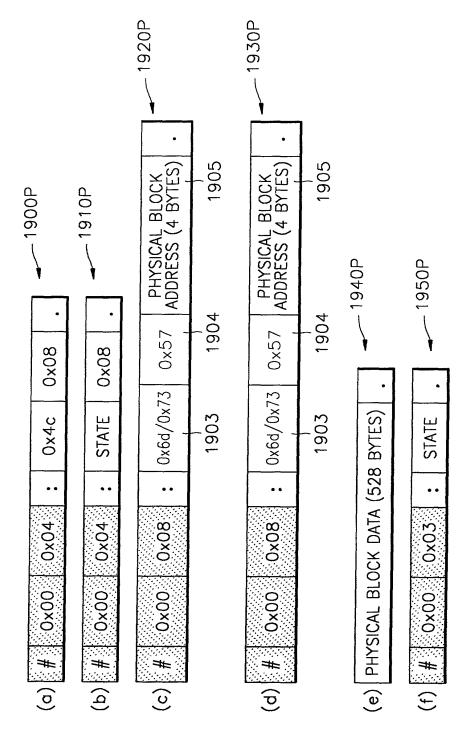   DATA

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FIG. 18B

(a) 1800P

| # | 0x00 | 0x04 | : | 0x4c | 0x08 | . |

(b) 1810P

| # | 0x00 | 0x04 | : | STATE | 0x08 | . |

(c) 1820P

| # | 0x00 | 0x08 | : | 0x6d/0x73 | 0x52 | PHYSICAL BLOCK ADDRESS (4 BYTES) | . |

1803   1804   1805

(d) 1830P

| # | 0x00 | 0x08 | : | 0x6d/0x73 | 0x52 | PHYSICAL BLOCK ADDRESS (4 BYTES) | . |

1803   1804   1805

(e) 1840P

| # | 0x00 | 0x03 | : | 0x46 | . |

(f) 1850P

| PHYSICAL BLOCK DATA (528 BYTES) | . |

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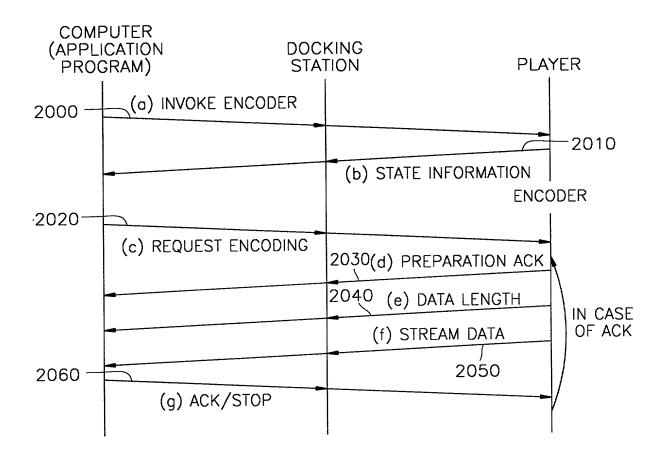Darryl Mexic   202-293-7060
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FIG. 19A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

1900 — (a) START SIGNAL

1910

1920 — (b) START SIGNAL ACK

(c) PREPARATION SIGNAL
(WRITE PHYSICAL BLOCK)

1930

1940 — (d) PREPARATION ACK

(e) PHYSICAL BLOCK
DATA

1950

(f) ACK

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FIG. 19B

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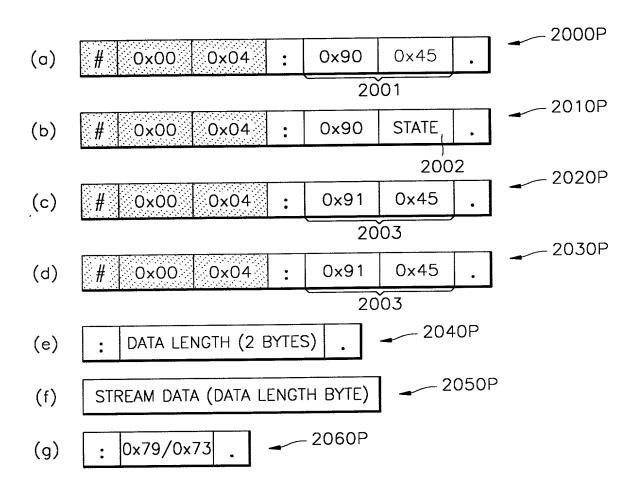Darryl Mexic   202-293-7060
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FIG. 20A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

2000 — (a) INVOKE ENCODER

— 2010

(b) STATE INFORMATION

ENCODER

·2020 —

(c) REQUEST ENCODING

2030 (d) PREPARATION ACK

2040   (e) DATA LENGTH

IN CASE
OF ACK

(f) STREAM DATA

2050

2060 —

(g) ACK/STOP

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FIG. 20B

(a) | # | 0x00 | 0x04 | : | 0x90 | 0x45 | . | ← 2000P
2001

(b) | # | 0x00 | 0x04 | : | 0x90 | STATE | . | ← 2010P
2002

(c) | # | 0x00 | 0x04 | : | 0x91 | 0x45 | . | ← 2020P
2003

(d) | # | 0x00 | 0x04 | : | 0x91 | 0x45 | . | ← 2030P
2003

(e) | : | DATA LENGTH (2 BYTES) | . | ← 2040P

(f) | STREAM DATA (DATA LENGTH BYTE) | ← 2050P
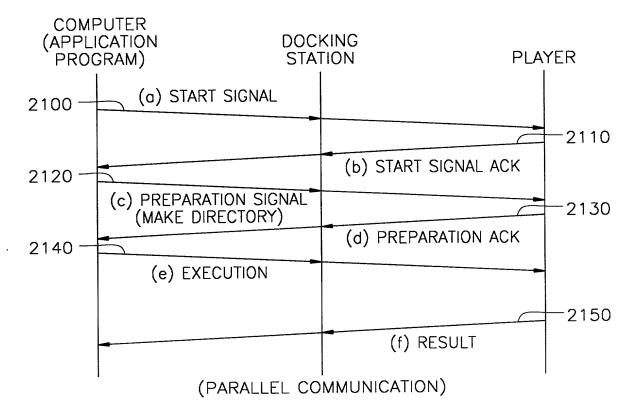
(g) | : | 0x79/0x73 | . | ← 2060P
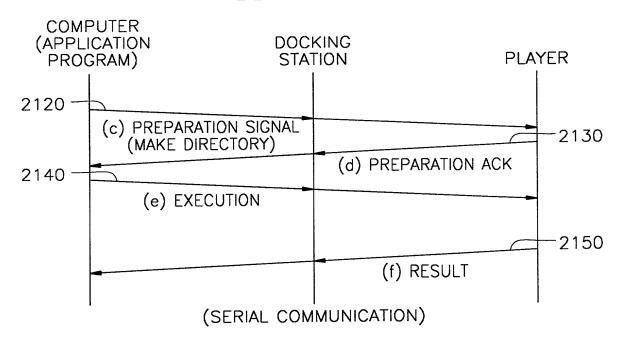
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FIG. 21A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

2100 — (a) START SIGNAL

— 2110

(b) START SIGNAL ACK

2120 —

(c) PREPARATION SIGNAL
(MAKE DIRECTORY)

— 2130

(d) PREPARATION ACK

2140 —

(e) EXECUTION

— 2150

(f) RESULT

(PARALLEL COMMUNICATION)

FIG. 21B

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

2120 —

(c) PREPARATION SIGNAL
(MAKE DIRECTORY)

— 2130

(d) PREPARATION ACK

2140 —

(e) EXECUTION

— 2150

(f) RESULT

(SERIAL COMMUNICATION)

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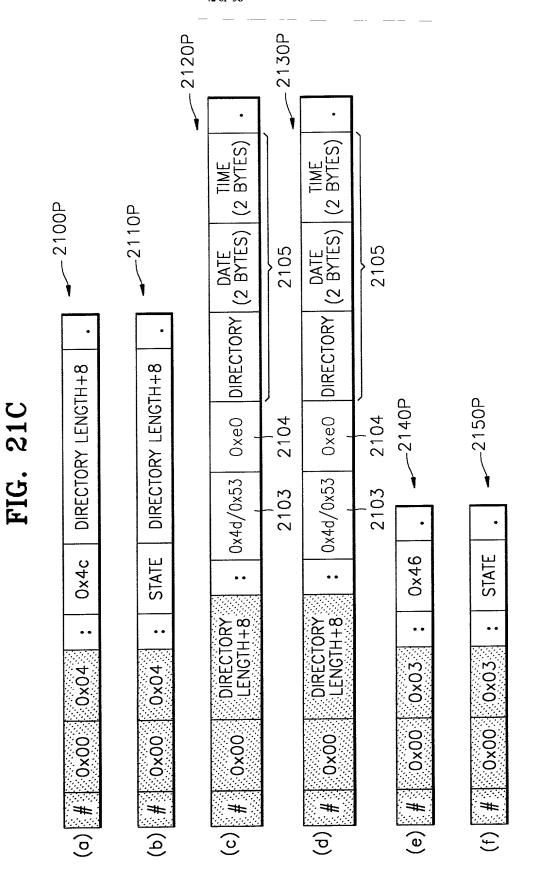Darryl Mexic   202-293-7060
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FIG. 21C

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FIG. 22A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

2200 — (a) START SIGNAL

2210

(b) START SIGNAL ACK

2220

(c) PREPARATION SIGNAL
(DELETE DIRECTORY)

2230

(d) PREPARATION ACK

2240

(e) EXECUTION

2250

(f) RESULT

(PARALLEL COMMUNICATION)

FIG. 22B

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

2220

(c) PREPARATION SIGNAL
(DELETE DIRECTORY)

2230

(d) PREPARATION ACK

2240

(e) EXECUTION

2250

(f) RESULT

(SERIAL COMMUNICATION)

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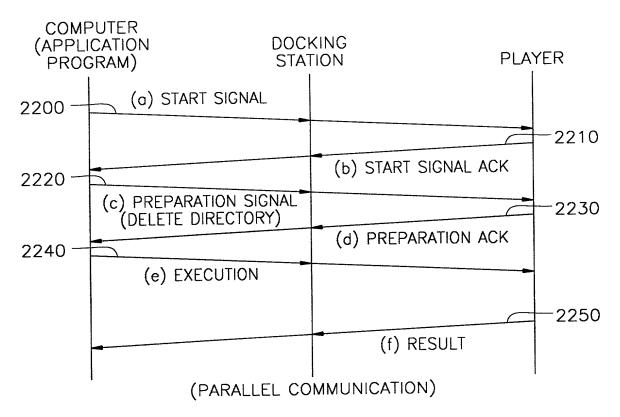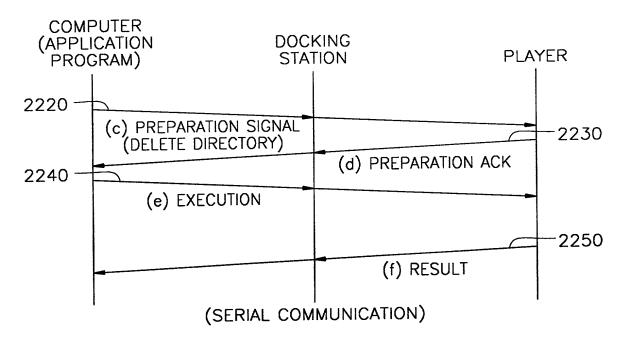Darryl Mexic   202-293-7060
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FIG. 22C

(a) 2200P
| # | 0x00 | 0x04 | : | 0x4c | DIRECTORY LENGTH+4 | . |

(b) 2210P
| # | 0x00 | 0x04 | : | STATE | DIRECTORY LENGTH+4 | . |

(c) 2220P
| # | 0x00 | DIRECTORY LENGTH+4 | : | 0x4d/0x53 | 0xe1 | DIRECTORY | . |
2203   2204   2205

(d) 2230P
| # | 0x00 | DIRECTORY LENGTH+4 | : | 0x4d/0x53 | 0xe1 | DIRECTORY | . |
2203   2204   2205

(e) 2240P
| # | 0x00 | 0x03 | : | 0x46 | . |

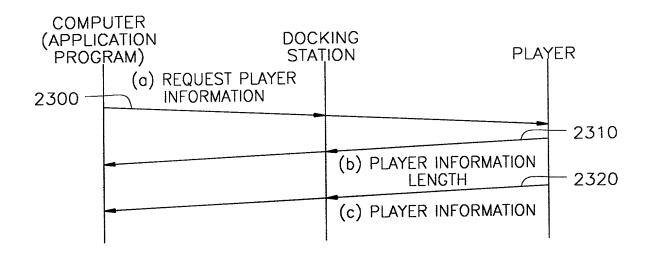(f) 2250P
| # | 0x00 | 0x03 | : | STATE | . |

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FIG. 23A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

PLAYER

(a) REQUEST PLAYER
INFORMATION

2300

2310

(b) PLAYER INFORMATION
LENGTH

2320

(c) PLAYER INFORMATION

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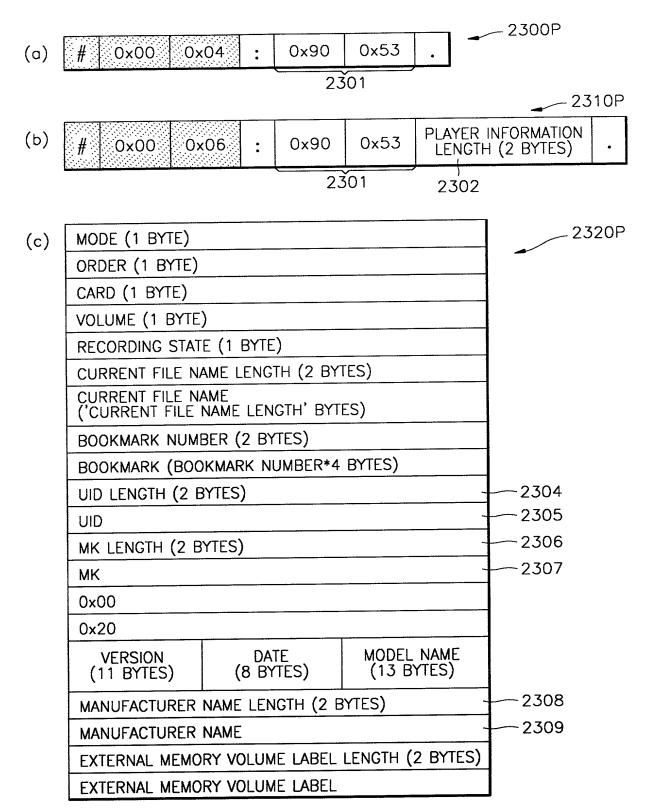Darryl Mexic   202-293-7060
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FIG. 23B

(a)

#	0x00	0x04	:	0x90	0x53	.

2300P

2301

(b)

#	0x00	0x06	:	0x90	0x53	PLAYER INFORMATION LENGTH (2 BYTES)	.

2310P

2301   2302

(c)

MODE (1 BYTE)
ORDER (1 BYTE)
CARD (1 BYTE)
VOLUME (1 BYTE)
RECORDING STATE (1 BYTE)
CURRENT FILE NAME LENGTH (2 BYTES)
CURRENT FILE NAME ('CURRENT FILE NAME LENGTH' BYTES)
BOOKMARK NUMBER (2 BYTES)
BOOKMARK (BOOKMARK NUMBER*4 BYTES)
UID LENGTH (2 BYTES)
UID
MK LENGTH (2 BYTES)
MK
0x00
0x20

2320P

2304
2305
2306
2307

VERSION (11 BYTES)	DATE (8 BYTES)	MODEL NAME (13 BYTES)

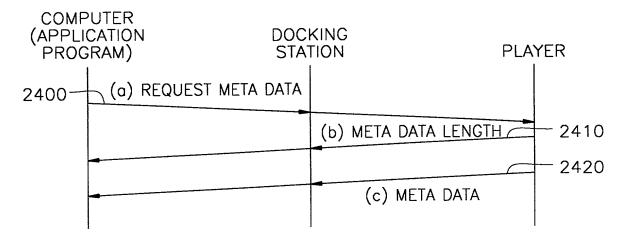| MANUFACTURER NAME LENGTH (2 BYTES) |
|---|
| MANUFACTURER NAME |
| EXTERNAL MEMORY VOLUME LABEL LENGTH (2 BYTES) |
| EXTERNAL MEMORY VOLUME LABEL |

2308
2309

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FIG. 24A

COMPUTER
(APPLICATION
PROGRAM)
DOCKING
STATION
PLAYER

2400 — (a) REQUEST META DATA

(b) META DATA LENGTH — 2410

2420

(c) META DATA

FIG. 24B

2400P

(a) # | 0x00 | 0x04 | : | 0x90 | 0x20 | .

2401

2410p

(b) # | 0x00 | 0x06 | : | 0x90 | 0x20 | META DATA LENGTH (2 BYTES) | .

2401   2402

2420P

(c)
| CIPHER ALGORITHM (2 BYTES) |
| HASH ALGORITHM (2 BYTES) |
| RANDOM NUMBER GENERATOR (2 BYTES) |
| LCM-PD-SAC ID (2 BYTES) |
| CODEC ALGORITHM (2 BYTES) |
| DEVICE INTERFACE (1 BYTE) |
| DRM TYPE (2 BYTES) |
| FILE FORM VERSION (2 BYTES) |
| PM TYPE (2 BYTES) |

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FIG. 25A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

2500 — (a) REQUEST TO SET
        CURRENT FILE

                            (b) STATE INFORMATION — 2510

2520 —

2530 — (c) INFORMATION LENGTH

        (d) FILE NAME
                                                       — 2540

                            (e) RESULT

FIG. 25B

(a) | # | 0x00 | 0x04 | : | 0x90 | 0x10 | . | — 2500P
                                └── 2501 ──┘

(b) | # | 0x00 | 0x04 | : | 0x90 | STATE | . | — 2510P
                                        └ 2502

(c) | # | 0x00 | 0x04 | : | INFORMATION LENGTH (2 BYTES) | . | — 2520P
                                              └ 2504

(d) | # | FILE NAME LENGTH+2 (2 BYTES) | : | FILE NAME | . | — 2530P
                                                    └ 2505

(e) | # | FILE NAME LENGTH+2 (2 BYTES) | : | FILE NAME | . | — 2540P
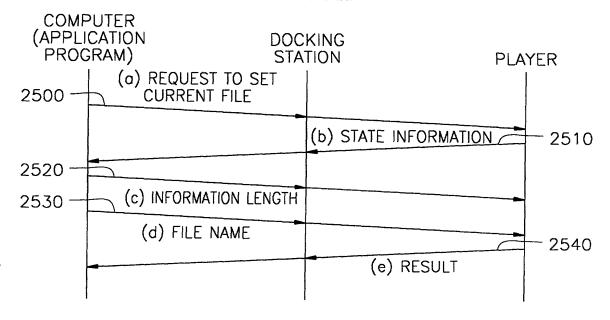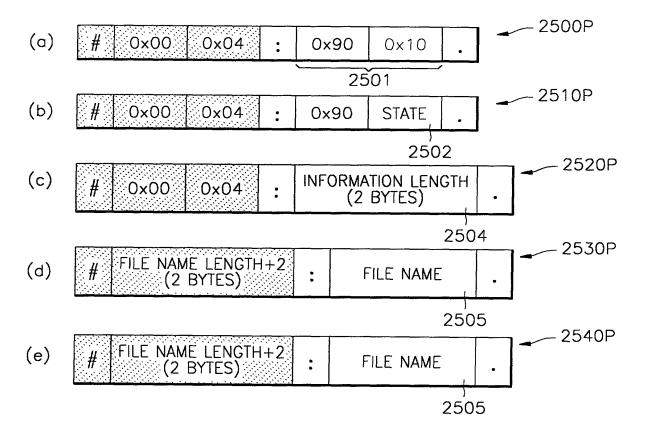   └ 2505

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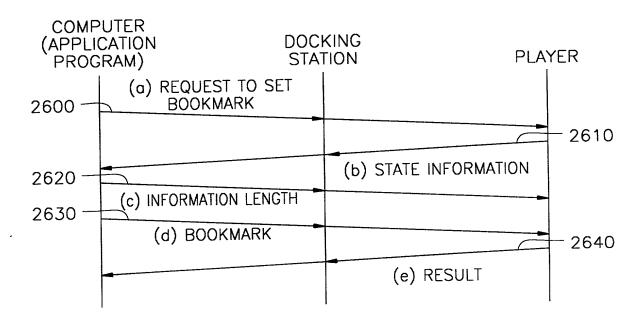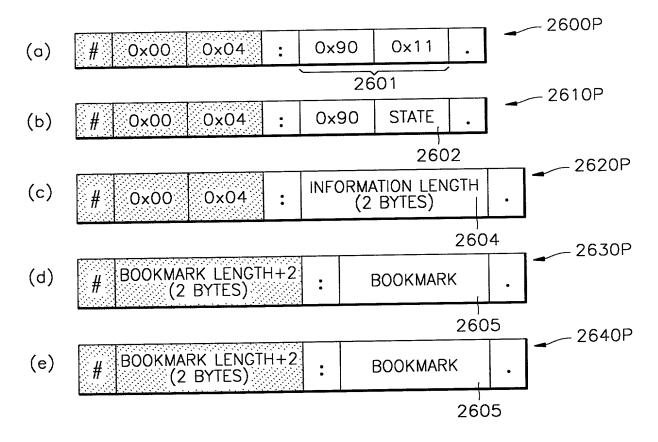Darryl Mexic   202-293-7060
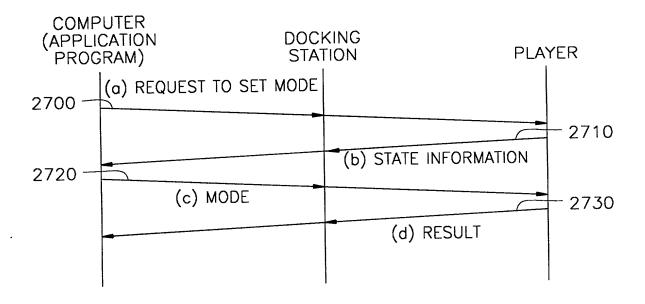49 of 58

FIG. 26A

FIG. 26B

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FIG. 27A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

2700   (a) REQUEST TO SET MODE

                                                        2710

                            (b) STATE INFORMATION

2720

        (c) MODE   2730

                            (d) RESULT

FIG. 27B

(a)   # | 0x00 | 0x04 | : | 0x90 | 0x12 | .   2700p
                                2701

(b)   # | 0x00 | 0x04 | : | 0x90 | STATE | .   2710P
                                        2702

(c)   # | 0x00 | 0x03 | : | MODE | .   2720P
                                2704

(d)   # | 0x00 | 0x03 | : | STATE | .   2730P
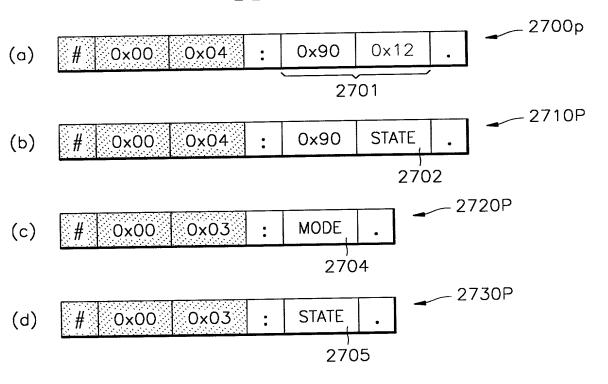   2705

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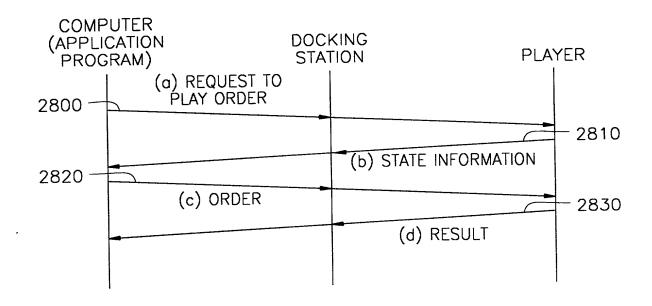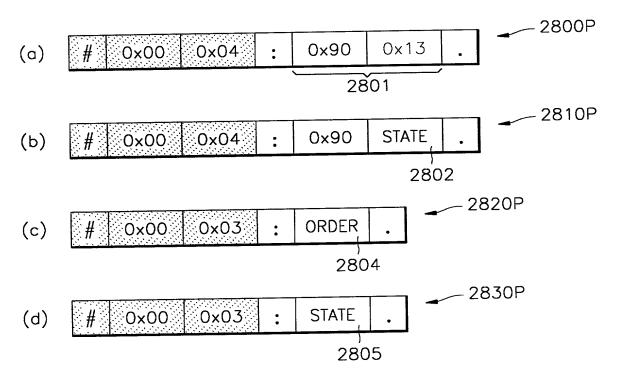Darryl Mexic   202-293-7060
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FIG. 28A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

2800   (a) REQUEST TO
                    PLAY ORDER
                                                                    2810

2820   (b) STATE INFORMATION

                (c) ORDER   2830

                              (d) RESULT

FIG. 28B

(a) | # | 0x00 | 0x04 | : | 0x90 | 0x13 | . | 2800P
                                    └──── 2801 ────┘

(b) | # | 0x00 | 0x04 | : | 0x90 | STATE | . | 2810P
                                            2802

(c) | # | 0x00 | 0x03 | : | ORDER | . | 2820P
                                  2804

(d) | # | 0x00 | 0x03 | : | STATE | . | 2830P
                                  2805

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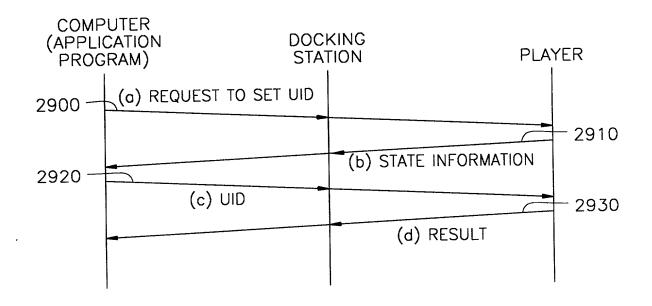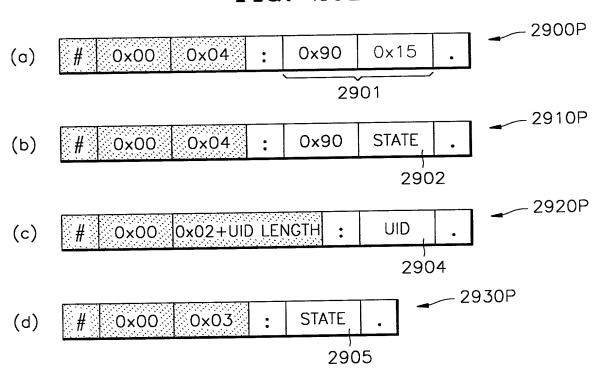Darryl Mexic   202-293-7060
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FIG. 29A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

2900 —— (a) REQUEST TO SET UID

                                                        —— 2910

                            (b) STATE INFORMATION

2920 ——

        (c) UID   —— 2930

                            (d) RESULT

FIG. 29B

(a) | # | 0x00 | 0x04 | : | 0x90 | 0x15 | . | —— 2900P
                                  ⌣2901⌣

(b) | # | 0x00 | 0x04 | : | 0x90 | STATE | . | —— 2910P
                                         2902

(c) | # | 0x00 | 0x02+UID LENGTH | : | UID | . | —— 2920P
                                        2904

(d) | # | 0x00 | 0x03 | : | STATE | . | —— 2930P
                          2905

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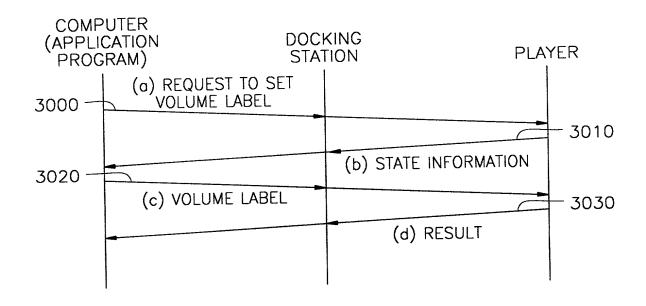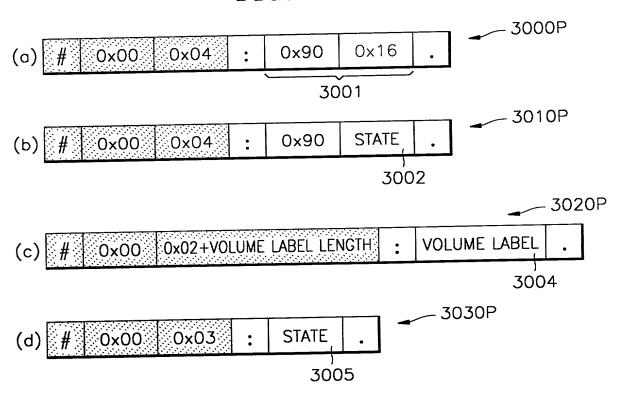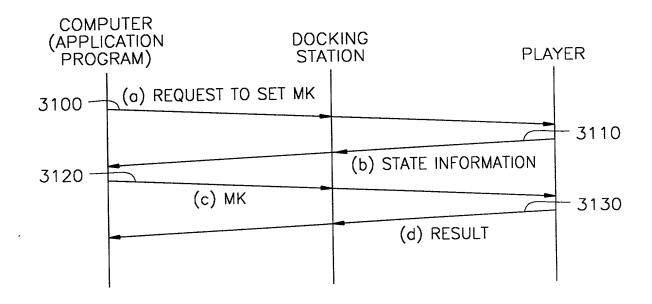Darryl Mexic   202-293-7060
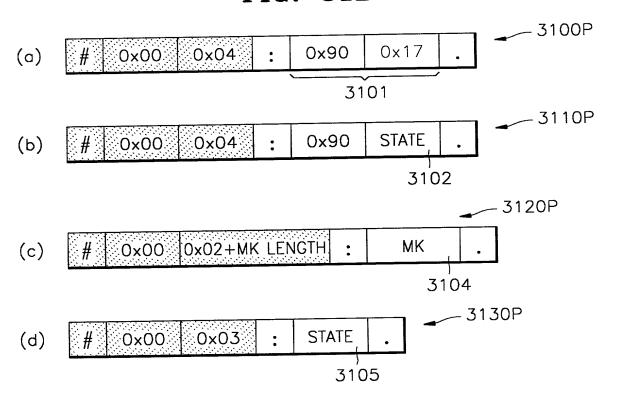53 of 58

FIG. 30A

FIG. 30B

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FIG. 31A

COMPUTER
(APPLICATION
PROGRAM)   DOCKING
                            STATION   PLAYER

3100 — (a) REQUEST TO SET MK
                                                        — 3110
           (b) STATE INFORMATION
3120 —
           (c) MK
                                                        — 3130
                              (d) RESULT

FIG. 31B

(a) | # | 0x00 | 0x04 | : | 0x90 | 0x17 | . | — 3100P
                                  └─── 3101 ───┘

(b) | # | 0x00 | 0x04 | : | 0x90 | STATE | . | — 3110P
                                          |
                                        3102

(c) | # | 0x00 | 0x02+MK LENGTH | : | MK | . | — 3120P
                                            |
                                          3104

(d) | # | 0x00 | 0x03 | : | STATE | . | — 3130P
                                   |
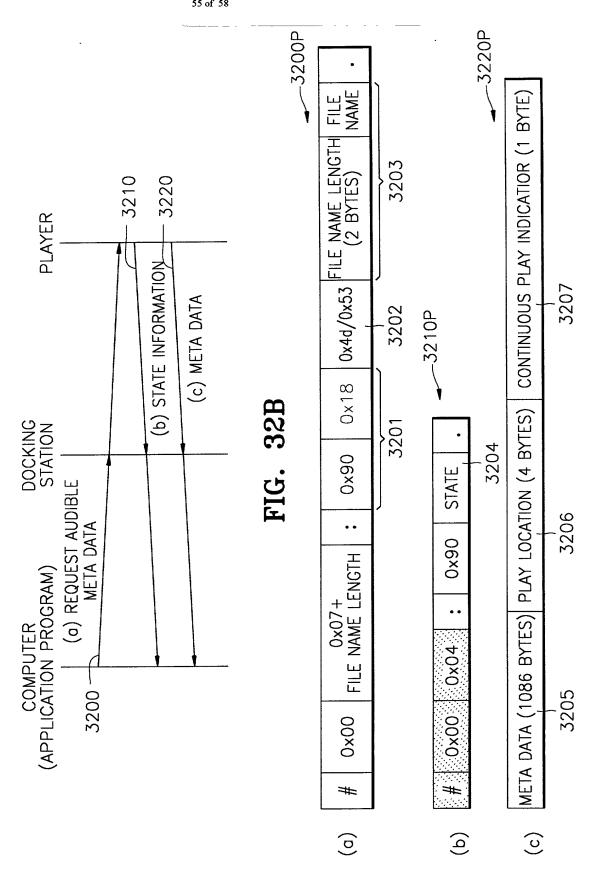   3105
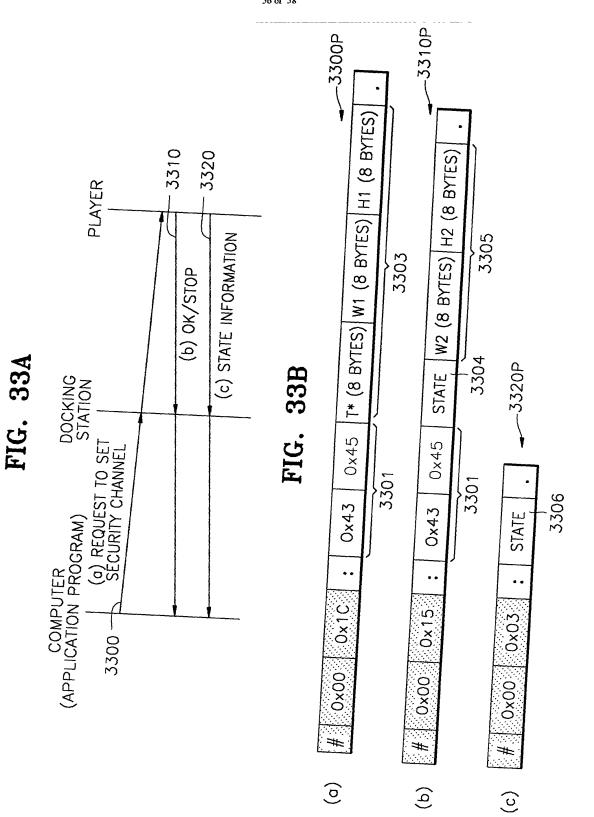
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FIG. 32A

COMPUTER
(APPLICATION PROGRAM)

DOCKING
STATION

PLAYER

(a) REQUEST AUDIBLE
META DATA

3200

(b) STATE INFORMATION

3210

(c) META DATA

3220

FIG. 32B

(a)

3200P

| # | 0x00 | 0x07+ FILE NAME LENGTH | : | 0x90 | 0x18 | 0x4d/0x53 | FILE NAME LENGTH (2 BYTES) | FILE NAME | . |

3201   3202   3203

3210P

(b)

| # | 0x00 | 0x04 | : | 0x90 | STATE | . |

3204

(c)

3220P

| META DATA (1086 BYTES) | PLAY LOCATION (4 BYTES) | CONTINUOUS PLAY INDICATIOR (1 BYTE) |

3205   3206   3207

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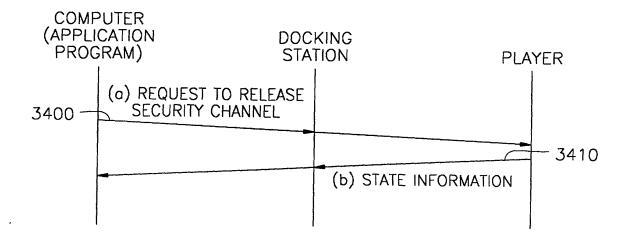Darryl Mexic   202-293-7060
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FIG. 33A

COMPUTER
(APPLICATION PROGRAM)

DOCKING
STATION

PLAYER

3300

(a) REQUEST TO SET
SECURITY CHANNEL

3310

(b) OK/STOP

3320

(c) STATE INFORMATION

FIG. 33B

3300P

(a)

| # | 0x00 | 0x1C | : | 0x43 | 0x45 | T* (8 BYTES) | W1 (8 BYTES) | H1 (8 BYTES) | . |

3301   3303

3310P

(b)

| # | 0x00 | 0x15 | : | 0x43 | 0x45 | STATE | W2 (8 BYTES) | H2 (8 BYTES) | . |

3301   3304   3305

3320P

(c)

| # | 0x00 | 0x03 | : | STATE | . |

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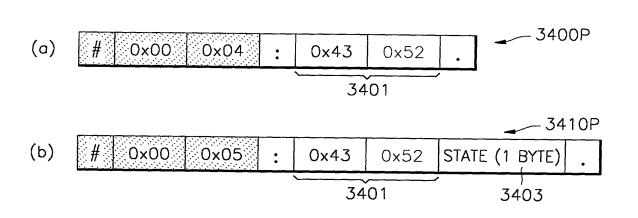Darryl Mexic   202-293-7060
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FIG. 34A

FIG. 34B

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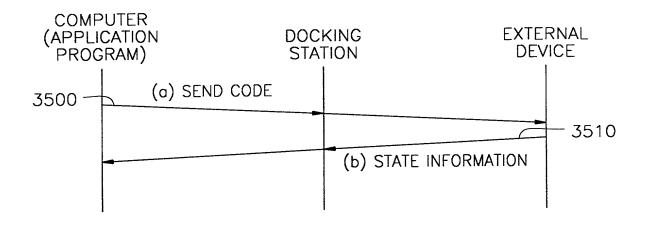Darryl Mexic   202-293-7060
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FIG. 35A

COMPUTER
(APPLICATION
PROGRAM)

DOCKING
STATION

EXTERNAL
DEVICE

3500

(a) SEND CODE

3510

(b) STATE INFORMATION

FIG. 35B

3500P

(a)

| # | 0x00 | 0x05 | : | 0x92 | 0x10 | CODE | . |

3501   3503

3510P

(b)

| # | 0x00 | 0x04 | : | STATE | CODE | . |

3504   3503